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Craxirex unicinctus), the little Ground Dove, and the quaint Wood Ibis, called there "Colorado Turkey" (*Tantalus loculator*).

My object has been to give merely a sketch of the progress of the faunal seasons, as I saw them.

HINTS ON TAXIDERMY.

BY C. A. WALKER.

[Concluded from page 201.]

The method of skinning and mounting tortoises and turtles. —By examining the exterior covering of this order it will be seen that it consists of two horny plates or shields, which are closely united at the sides, forming a protection to the soft parts of the body; the upper one is called the carapace, and the lower one the sternum or breast bone. Before commencing the operation of skinning it is necessary to separate these two plates by means of a strong knife, chisel, or other similar instrument, or a fine saw, taking great care to make the separation at the suture, as far as possible, and to avoid cracking the shell. After this operation has been finished remove all the flesh adhering to both the upper and under plates. The arrangement of the bones and muscles differs so essentially from that of the other orders of vertebrates that attention should be given to this point in removing the various parts. The fore and hind legs should be turned out, and all the flesh adhering to them removed, taking care not to separate these various parts from their attachments to the upper shell; also, the neck and head should undergo the same operation, the brain and eyes being removed. The inner surface should now be thoroughly cleaned by means of a stiff brush, and the preservative applied to every part, after which they may be restored to position, having previously filled the eye sockets and cavity of the brain with cotton. In stuffing, commence by restoring the neck to its natural form with cut tow. A wire (the body support), well pointed, should next be inserted at the top of the head, upon the outer surface, and passed down through the cut tow within the neck, across the space previously occupied by the body, and thence through the tail until it protrudes at the tip of the same. The other wires, or leg supports, should be inserted at the soles of each foot, up within the skin of the legs, and secured firmly to the main body support. The adjustment of the wires is essentially the same as recommended in the mounting of the larger mammalia. The various muscles should now be imitated with cut tow, and the upper and under plates joined. This may be accomplished by bringing them together, and boring four small holes with an awl, two at one end, the one above and the other beneath the suture, and the same at the other end, uniting them by means of fine annealed wire. Cement may also be used with advantage in this operation. The carapace may be cleaned with a weak solution of nitric acid and water, washing it freely; afterwards it may be oiled and rubbed with a piece of flannel.

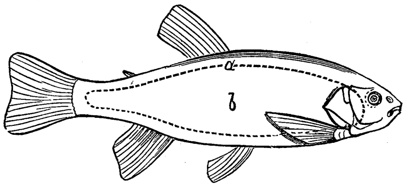
Of crocodiles and lizards in general.—All of the smaller species should be preserved in spirits, of about 75 per cent strength. The larger of this group are skinned in the same manner as a quadruped; especial care is, however, required in skinning the tails, as they are very liable to break. But little preservative is needed, the skins being of a dry nature. They may also be stuffed in the same manner as a quadruped, and little skill is required to get them in shape.

Of serpents.—With the larger specimens, such as cannot be readily preserved in alcohol, the following method should be adopted in removing the skin. Open the mouth to its utmost capacity and insert therein a stick to retain it in this position. With the aid of the scalpel sever the body from the head within the skin, leaving no attachments whatever.

Grasp the body with the pincers and pull it out through the mouth, and fasten it to a hook. The body is now to be pulled from the enveloping skin; to accomplish this it is necessary to avoid all strain, that the scales upon the outside may not be disarranged, using the scissors and scalpel to sever the ligaments which bind the skin to the carcass. There is no necessity of turning the skull, but the brain should be removed through an opening at its base. The muscles within the mouth, and the eyes, should also be taken away. The whole should then be anointed with the preservative, and the skin reversed to restore it to its natural position. Before stuffing, suspend the skin in a vertical position, with the head uppermost. The form can now be restored with sawdust; this may be run through a tunnel, using a slender stick, from time to time, to lay it evenly. Having reached the mouth insert some putty to keep the sawdust from spilling out. The specimen may now be taken down and bent into any position wished, being supported by a wooden framework until thoroughly dry. In order that the specimen may be free from the attacks of noxious insects it is well to soak the sawdust in a solution of carbolic acid and water previous to placing it within the skin; and it should be thoroughly dry, otherwise the skin is liable to mould. Sand can also be used to imitate the form, but the chief objection is its great weight.

Of the method of skinning and mounting fish.—This class of animals possess many beauties, which, when thus removed from their native element, vanish forever, and it is in vain for the taxidermist to try to imitate those iridescent tints which characterize the living specimens. The best he can do is to preserve in form and general outline those characteristics by which he may be able to recognize his subject. Before proceeding to describe the operation of skinning it may be well to state that the scales, as well as their color, may be preserved to a certain degree by applying tissue paper to them, which, from the natural glutinous matter which covers the scales will adhere firmly; this being allowed to remain until the skin has dried may be easily removed by moistening with a damp cloth. All small fish should be mounted in section, while the larger varieties may be preserved entire. Suppose the fish to be of such a size as to be mounted in section, first, it is necessary that it be as fresh as possible, as the scales will become detached if decay be allowed to commence. Lay the fish on one side and cover the side uppermost with tissue paper, as stated above; also extend the fins by means of the same, and allow them to remain a few moments until they become fixed and dry; this will be a protection to the fins and scales during the process of skinning. Having provided yourself with a damp cloth spread it smoothly upon the table, and place the fish upon it with the papered side down. With the dissecting scissors cut the skin in the manner indicated, by the dotted line *a*, in Fig. 77, and remove the skin (*b*) included within the line. The remaining skin must now be detached from the flesh, beginning at the head and separating it downward toward the tail. The spine must be severed close to the head, and also at the tail, and the entire body removed. All the flesh having been taken from the skin, and the eyes removed, the inside must be wiped out and the preservative applied. It is necessary here to repeat the caution not to use any unnecessary strain that will be liable to distend the skin. The skin should now be filled with cotton or tow, and this must be laid so evenly that there shall be no prominences upon the outside of the same. When filled it should be laid with the open side down, upon a board of proper dimensions previously prepared, and fastened to it by means of small tacks, commencing at the head, and fastening the edges (as at A, Fig. 77) downward toward

Fig. 77.



the tail. It should then be set aside in the air to dry, care being taken not to expose it to the rays of the sun. When dry the paper which covers the exposed side and with which the rays are distended, may be removed in the manner previously stated, and the glass eyes inserted with a little putty. As the glass eyes used by taxidermists are generally too spherical, and polished, it is well to manufacture them of wood, using common paint to restore the color, avoiding the use of varnish. Finally the skin should receive a coat of thin colorless varnish, after which it is ready for the cabinet. In sharks and large fishes an incision should be made below the head at its base, along the ridge of the back, following to either side of the dorsal fin down to the tail. The skin can then be separated on each side, and by severing the vertebræ at the head and tail, the entire body may be removed. The tail having been skinned, the head should be pushed inwards and the skin passed over it, when all the cartilage can be freely cut away. In stuffing these large species it becomes necessary to use a body support, and a bar of light wood may be used for this purpose; this should enter the skull, thereby being more easily kept in position, and extend to the base of the tail. Hooks can be fastened to this bar, and by means of wire the specimen can be suspended from above. The body should then be stuffed with hay, and the incision upon the back carefully sewed up. If the first coat of varnish is observed to rise in scales it should be removed with a solution of nitric acid and water, and the skin allowed to dry, when a second application of varnish will ever afterwards remain quite solid.

We may state in conclusion that with the exception of large turtles, alligators and their allies, large sharks and a few other fishes of great size, stuffed specimens of the two classes of reptiles and fishes are very unsatisfactory to the naturalist, and that whenever it is practicable to preserve the specimen in alcohol that method should be adopted in place of skinning and stuffing.